The ethics of disclosing the use of artificial intelligence tools in writing scholarly manuscripts

Abstract

In this article, we discuss ethical issues related to using and disclosing artificial intelligence (AI) tools, such as ChatGPT and other systems based on large language models (LLMs), to write or edit scholarly manuscripts. Some journals, such as Science, have banned the use of LLMs because of the ethical problems they raise concerning responsible authorship. We argue that this is not a reasonable response to the moral conundrums created by the use of LLMs because bans are unenforceable and would encourage undisclosed use of LLMs. Furthermore, LLMs can be useful in writing, reviewing and editing text, and promote equity in science. Others have argued that LLMs should be mentioned in the acknowledgments since they do not meet all the authorship criteria. We argue that naming LLMs as authors or mentioning them in the acknowledgments are both inappropriate forms of recognition because LLMs do not have free will and therefore cannot be held morally or legally responsible for what they do. Tools in general, and software in particular, are usually cited in-text, followed by being mentioned in the references. We provide suggestions to improve APA Style for referencing ChatGPT to specifically indicate the contributor who used LLMs (because interactions are stored on personal user accounts), the used version and model (because the same version could use different language models and generate dissimilar responses, e.g., ChatGPT May 12 Version GPT3.5 or GPT4), and the time of usage (because LLMs evolve fast and generate dissimilar responses over time). We recommend that researchers who use LLMs: (1) disclose their use in the introduction or methods section to transparently describe details such as used prompts and note which parts of the text are affected, (2) use in-text citations and references (to recognize their used applications and improve findability and indexing), and (3) record and submit their relevant interactions with LLMs as supplementary material or appendices.